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Statistical Studies of Heart Disease ;

VII. Mortality from Eight Specific Forms of Heart Disease Among White Persons .

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The 1938 revision of the International List of Causes of Death (1) showed a total of 20 heart disease rubrics, an increase of 7 over the 1929 revision. Each subdivision of heart disease based on the tissue affected was subdivided on the basis of the rheumatic origin of the specific form of heart disease, in order to establish subordinate classification groups of deaths certified as due to the after effects of rheumatic fever. The deaths thus tabulated in the "other chronic rheumatic heart disease" group represent about 2 percent of the total number of heart disease deaths (exclusive of a few tabulated as chronic rheumatic endocarditis and included under chronic valvular disease in table 1). These deaths added to the 11 percent tabulated as due to chronic affections of the valves and endocardium approximate a classification group of all reported chronic rheumatic heart disease, but some deaths of nonrheumatic origin are included.

In addition to this change in 1938, four terms were reallocated from "other diseases of the heart" to "chronic myocarditis," namely, cardiovascular disease, hypertensive heart disease, abscess of heart, and rupture of heart. The transfer involved 54,584 deaths in 1940 (2), or nearly half of the deaths formerly tabulated as due to other diseases of the heart and one-quarter of the deaths tabulated in 1940 as due to diseases of the myocardium. The chronic myocarditis group also was increased by 10,812 deaths reallocated from "other diseases of the myocardium" as tabulated under the 1929 revision.

A further classification change in 1938 transferred certain heart

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disease rubrics to various other causes of death resulting in a loss of 11,519 deaths formerly classified as due to heart disease (2). A large proportion of these deaths (9,166) had been certified as due to cardiac nephritis, cardionephritis, or cardiorenal disease, and were transferred from "other diseases of the heart" to "chronic nephritis."

Details of the several reclassifications are presented in a special report of the National Office of Vital Statistics (2). Table 1 as shown here is adapted from that report and gives the numbers of deaths in 1940 tabulated by both the 1929 and 1938 revisions of the International List. The classification group, diseases of the heart (all forms), was reduced only 3 percent through transfers of deaths to other main groups. Changes within the main classification groups, however, were of major importance numerically and, as has been stated, affected principally other diseases of the heart and chronic myocarditis.

In the sixth revision of the International List in 1948, which provides a single list applicable to both morbidity and mortality statis-

Table 1. *Deaths from heart disease in 1940 tabulated according to both the 1929 and 1938 revisions of the International List of Causes of Death*¹

International List titles, 1938 revision	List numbers, 1938 revision	Deaths in 1940 classified by		Reallocation in deaths between 2 revisions	Percent of heart disease deaths, 1938 revision	
		1929 revision	1938 revision		Based on all heart disease deaths	Based on five broad classification groups
Diseases of the heart (all forms).....	90-95....	396, 710	385, 191	-11, 519	100.0	-----
Diseases of the coronary arteries and angina pectoris.....	94a, b....	101, 361	101, 463	+ 102	26.4	100.0
Acute endocarditis (except rheumatic)....	91a, b, c..	2, 797	2, 830	+ 33	.7	100.0
Chronic affections of the valves and endocardium and other chronic rheumatic heart disease.....	-----	51, 875*	51, 691	- 184	13.4	100.0
Valvular disease and chronic endocarditis.....	92a, b, d..	36, 888	39, 572	+ 2, 684	10.3	71.1
Endocarditis (unspecified, 45 years and over).....	92e.....	2, 902	2, 708	- 194	.7	5.6
Other chronic rheumatic heart disease.....	90a, 92c, 93c, 95b..	12, 085	9, 411	- 2, 674	2.4	23.3
Diseases of the myocardium.....	-----	146, 994	199, 996	+53, 002	51.9	100.0
Acute myocarditis (except rheumatic). Myocarditis (unspecified, under 45 years).....	93a.....	4, 168	4, 152	- 16	1.1	2.8
Chronic myocarditis.....	93b.....	744	725	- 19	.2	.5
Other myocarditis.....	93d.....	110, 704	176, 812	+66, 108	45.9	75.3
Chronic myocarditis.....	93e.....	31, 378	18, 307	-13, 071	4.7	21.4
Other diseases of the heart.....	-----	93, 683	29, 211	-64, 472	7.6	100.0
Pericarditis (except rheumatic).....	90b.....	588	580	- 8	.1	2.0
Functional diseases of the heart.....	95a.....	959	1, 021	+ 62	.3	3.5
Other diseases of the heart.....	95c.....	92, 136	27, 610	-64, 526	7.2	94.5
Closely related diseases	-----	-----	-----	-----	-----	-----
Syphilitic heart disease.....	30d, e....	(?)	5, 160	-----	-----	-----
Acute rheumatic fever.....	58.....	1, 831	1, 725	-----	-----	-----
Congenital heart disease.....	157e, f...	(?)	6, 354	-----	-----	-----

¹ See Vital Statistics Special Reports 19: 153-277 (1944).

² Not available.

tics (3), a total of 19 individual categories are defined for diseases of the heart under the following four main divisions: chronic rheumatic heart disease, arteriosclerotic and degenerative heart disease, hypertensive heart disease, and other diseases of the heart. Preliminary tabulations of deaths during the first part of 1949 show a net gain between the fifth and sixth revisions of about 10 percent in the total number of deaths tabulated as diseases of the heart (4, 5). However, the shifts within the main divisions are not available at the present time, and it must be kept in mind that the terminology used in this study on specific forms of heart disease is based on the fifth (1938) revision.

The Eight Specific Forms

The five main divisions of diseases of the heart as suggested by the National Office of Vital Statistics are used in table 1 rather than the six divisions of the International List. Diseases of the myocardium accounted for half of the total deaths from all forms of heart disease in 1940. In that group three out of four deaths were certified as chronic myocarditis. Diseases of the coronary arteries and angina pectoris ranked second, with one-fourth of the deaths. In third place, with 13 percent of the heart disease deaths, were those tabulated as due to chronic affections of the valves and endocardium and other chronic rheumatic heart disease. In this category 71 percent of the deaths were certified as a form of valvular disease. Other diseases of the heart accounted for only 8 percent of the heart deaths; in this group 95 percent of the deaths were certified as a rare, ill-defined, or unspecified form of heart disease, the majority being unspecified as to form. The fifth main division, with less than 1 percent of the total deaths, was acute endocarditis.

Three other groups of deaths are considered in this study, namely, syphilitic heart disease, acute rheumatic fever, and congenital heart disease. Each category is related broadly to diseases of the heart but not tabulated in that main classification group. The last two are important causes of heart mortality among both sexes in the younger ages; the first, among middle-aged males.

Although coding procedures are uniform for the entire country, there are known to be geographic differences in the relative frequency of reported multiple causes of death. Physicians in urban areas, such as predominate in the North, tend to report more multiple causes. Hence relatively more urban death certificates are referred to the Joint-Cause Manual in a selection of the primary (tabulated) cause of death. In rural areas one may expect a greater inaccuracy of reporting the primary cause of death, as well as the details of diagnosis. This would lead to an increase in recorded mortality from the subgroup, other diseases of the heart, as the size of the city decreases.

Male-Female Comparison

Seven of the eight specific forms of heart disease showed a higher mortality for men than for women. The age-adjusted death rates per 100,000 population for each category were as follows for white males and females in the United States in 1940.

	Male	Female	Percent excess male over female
Diseases of the myocardium.....	162. 91	135. 00	21
Diseases of the coronary arteries.....	111. 93	46. 54	141
Chronic affections of the valves and endocardium...	39. 50	34. 84	13
Other diseases of the heart.....	25. 01	15. 71	59
Congenital heart disease.....	5. 84	4. 45	31
Syphilitic heart disease.....	4. 29	1. 08	297
Acute endocarditis.....	1. 98	1. 69	17
Acute rheumatic fever.....	1. 15	1. 19	-3

Mortality from syphilitic heart disease showed the greatest sex differential, as would be expected, with a rate for males nearly four times that for females. Death rates from diseases of the coronary arteries among males exceeded those among females by 141 percent. For other forms of heart disease the excess of male over female mortality was 59 percent or less. Acute rheumatic fever was the only form of heart disease mortality for which the male rate was lower than the female rate (fig. 1 and appendix table 1).

In urban areas of the United States the percentage excess of male over female heart disease mortality was markedly higher than in rural areas. The exceptions were valvular heart disease and congenital heart disease.

The age-specific death rates presented later in this study (fig. 5 and appendix table 2) illustrate the high male mortality at each age, particularly during the middle years of life. There was a slight tendency for the female rate to exceed the male rate during younger years; for example, for acute rheumatic fever at ages 5-14, for acute endocarditis up to age 25, and for valvular heart disease up to age 45. However, the other major forms showed much higher rates for males than for females throughout all ages.

Geographic Sections

Both urban and rural mortality recorded for all diseases of the heart is slightly higher in the North than in the South and in eastern than central sections of the United States. The broad regional distribution of industrialization, as measured by the percentage employed in manufacture, is in general similar to that of mortality from heart disease (9).

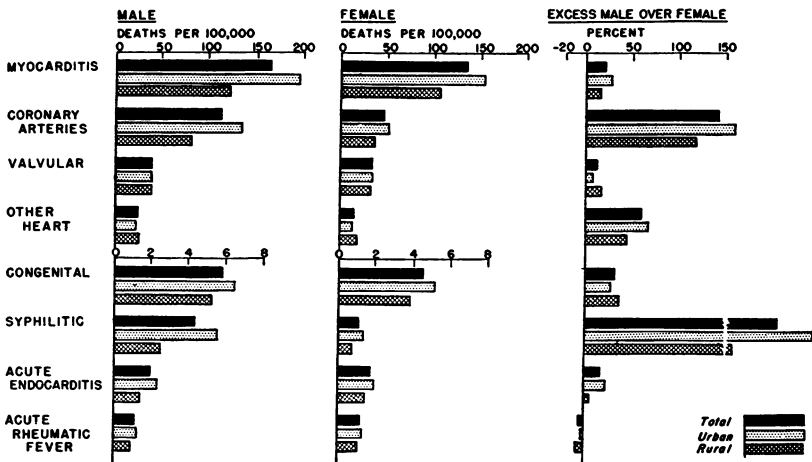


Figure 1. Male and female mortality from eight forms of heart disease and the percentage excess of male over female mortality, in urban and rural parts of the United States: white resident age-adjusted mortality in 1940.

Mortality rates for each of the specific forms of heart disease in nine geographic sections are given in the appendix table 1. The present discussion, however, will be limited to a North-South comparison in the eastern section of the United States, that is, the States east of the Mississippi River. The New England, Middle Atlantic, and East North Central regions have been combined to form the North; the South Atlantic and East South Central regions, the South. These two regions accounted for 69 percent of the total white population in the United States in 1940.¹

Mortality from all but one of the specific forms of heart disease is higher in the North than in the South sections of the eastern United States, whether we consider the rates for males or for females (fig. 2 and appendix table 2). Mortality from diseases of the myocardium shows the greatest difference in rates, with the rates in the South being less than two-thirds as high as those in the North. This is the chief factor in the North-South relationship noted above for all forms of heart disease.

Mortality from the subgroup, other diseases of the heart, was the one form with consistently higher rates in the South than in the North. This is undoubtedly related to a progressive increase in recording of deaths without mention of a specific form of heart disease in the more rural areas as compared with large urban centers.

Among urban males several other specific forms of heart disease also showed higher mortality rates in the North than in the South.

¹ The two West Central geographic sections comprised 20 percent of the white population; the Mountain and Pacific sections, 11 percent. Combined as the West, such a nonhomogeneous region does not lend itself to a North-South comparison that has meaning.

These included deaths from diseases of the coronary arteries, and to a lesser extent those from congenital heart disease and syphilitic heart disease. Only the first of these had a significant difference in rates and made a major contribution to the relatively high rates of mortality from all forms of heart disease observed for males in small cities of the South (9).

Population Size

Recorded mortality from diseases of the heart (all forms) is known to decline as size of city decreases, with clearly marked urban-rural differences. The extent of industrialization and related factors such as income and availability of medical facilities and services are correlated with heart disease mortality when size of city is held constant (9).

The major component, diseases of the myocardium, is shown in figure 1 as having a rural rate of only about two-thirds that of urban parts of the United States. The ratio of the rural to the urban death rates, expressed as a percentage, is given below for each of the specific forms of heart disease.

	<i>Rural rate as percentage of urban rate</i>	
	<i>Male</i>	<i>Female</i>
Diseases of the myocardium.....	62	69
Diseases of the coronary arteries.....	61	73
Chronic affections of the valves and endocardium.....	102	96
Other diseases of the heart.....	117	136
Congenital heart disease.....	82	79
Syphilitic heart disease.....	44	57
Acute endocarditis.....	64	74
Acute rheumatic fever.....	81	88

Similar differences between the urban and the rural rates are apparent in figure 2, where geographic section is held constant.

The steady decline in mortality from diseases of the myocardium with varying size-of-city groups may be seen in the following data from appendix table 1 for white males in the United States in 1940. There were 227 deaths from that cause per 100,000 population in the largest cities (those with 100,000 or more population), 171 in the middle-sized group (cities with 10,000-100,000 population), and 158 in the small cities (2,500-10,000 population). Thus the total urban rate was 196 deaths per 100,000 population as compared with a rural rate of only 122. Female rates followed this same pattern of decline as size of city decreased.

Deaths from diseases of the coronary arteries and from acute endocarditis showed similar differences between urban and rural rates. Recorded mortality was higher in cities of all sizes than in rural areas, but the decline among the cities was not always consistent with population size.

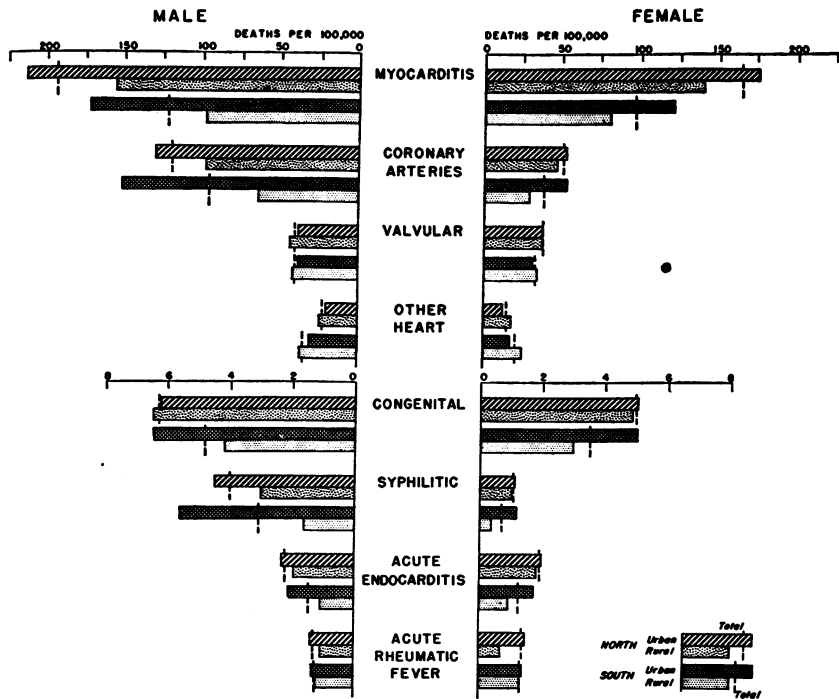


Figure 2. Male and female mortality from eight forms of heart disease in urban and rural parts of the North and South sections of the eastern United States: white resident age-adjusted mortality in 1940.

Valvular heart disease among males and other diseases of the heart among both sexes were the only specific forms that had recorded mortality rates higher in rural than in urban areas. The latter rate bore an inverse relationship to size of city, as discussed previously.

Variation With Age

There is considerable overlapping in the ages of high mortality of the several forms of heart disease, but within broad limits certain subgroups are associated with different age periods of the life span. Figures 3 and 4, based on appendix table 2, show by age the percentage distribution of heart disease deaths classified as due to each of the eight specific forms.

Congenital heart disease occurs mainly in persons under 5 years of age. In that age group it accounts for 91 percent of mortality from all forms of heart and closely related diseases. From 5 to 35 years of age, valvular heart disease is the major cause of heart disease mortality and is responsible for almost half of the deaths from all forms. From 35 to 65 years, mortality from diseases of the coronary arteries is a relatively large part of the total, as much as 44 percent among men.

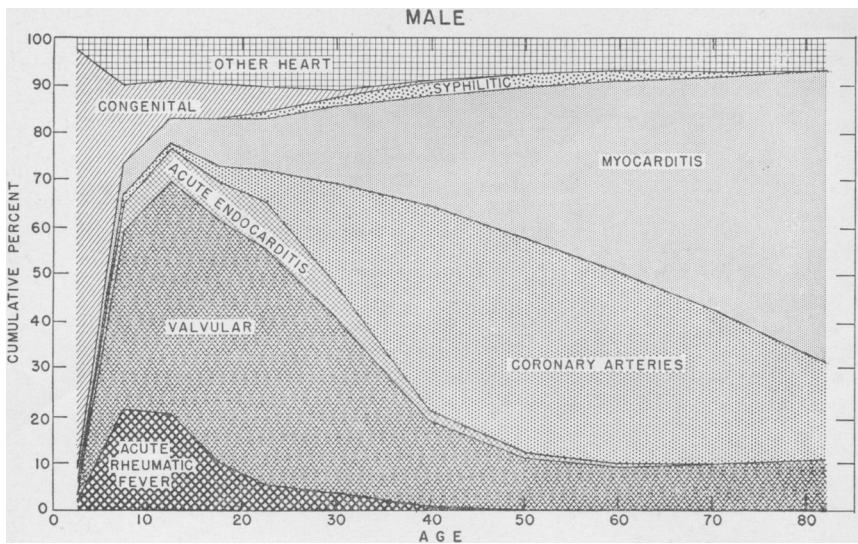


Figure 3. Proportion of heart disease deaths from each of eight forms among males by age group: white resident age-adjusted mortality in the United States, 1940.

At 65 years and over, diseases of the myocardium form the major portion of heart disease mortality—nearly two-thirds of the heart disease deaths among women.

Acute rheumatic fever appears as the second most important of these eight causes of heart disease mortality in the young ages, 5-19

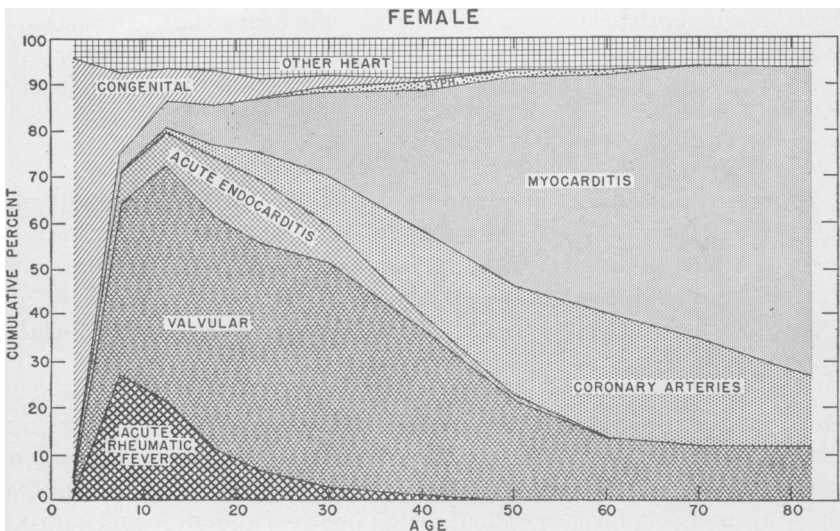


Figure 4. Proportion of heart disease deaths from each of eight forms among females by age group: white resident age-adjusted mortality in the United States, 1940.

years. Deaths from acute endocarditis are associated with young adulthood, and those from syphilitic heart disease, with the middle-adult ages.

In paper V of this series (10), it has been shown that the age-specific mortality curve for females for diseases of the heart (all forms) plots as a straight line on semilogarithmic paper from the ages of 30 to 80 years. The straightness of the line indicates that the

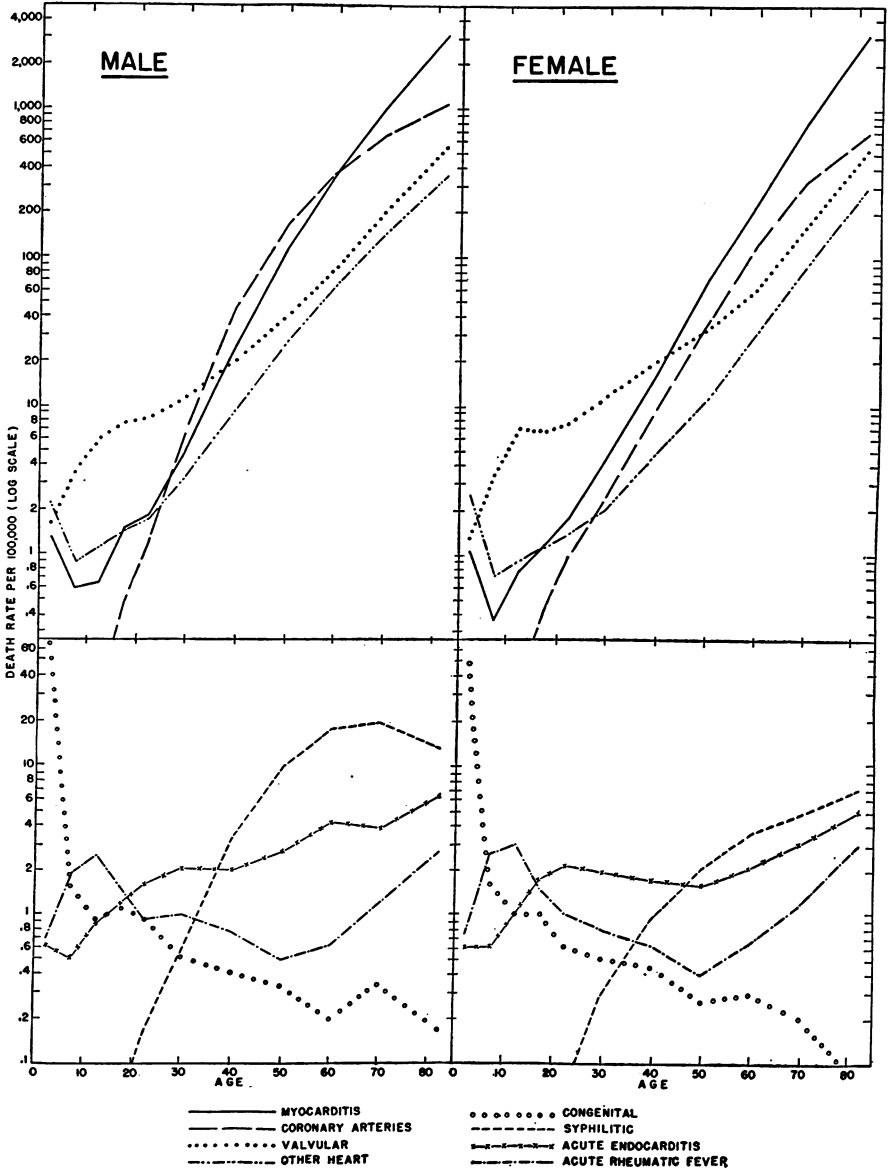


Figure 5. Age-specific mortality from eight forms of heart disease among white males and females in the United States, 1940.

MALE

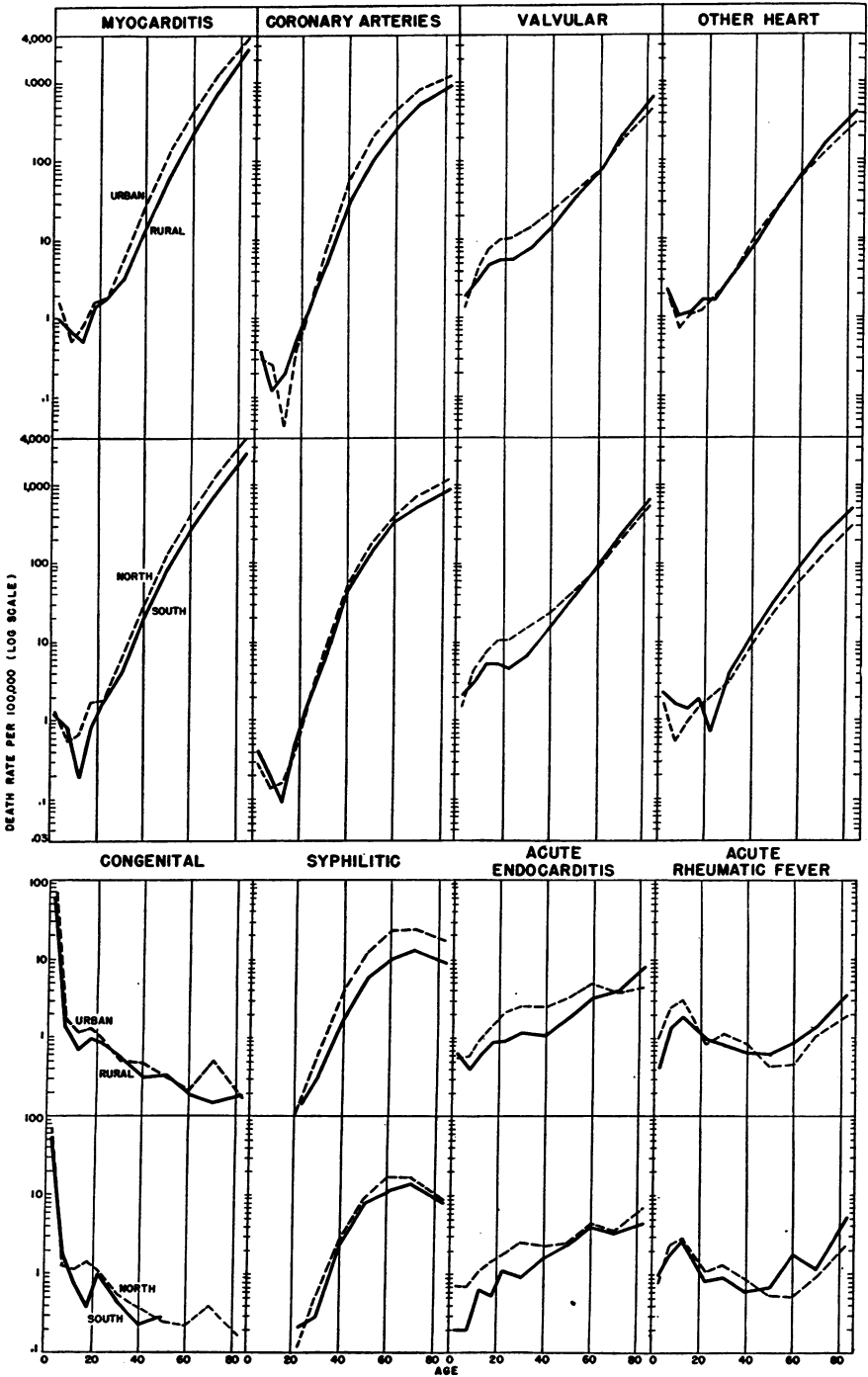


Figure 6. Age-specific male mortality from eight forms of heart disease in urban and rural parts of the United States and in North and South sections of the eastern United States: white resident mortality in 1940.

FEMALE

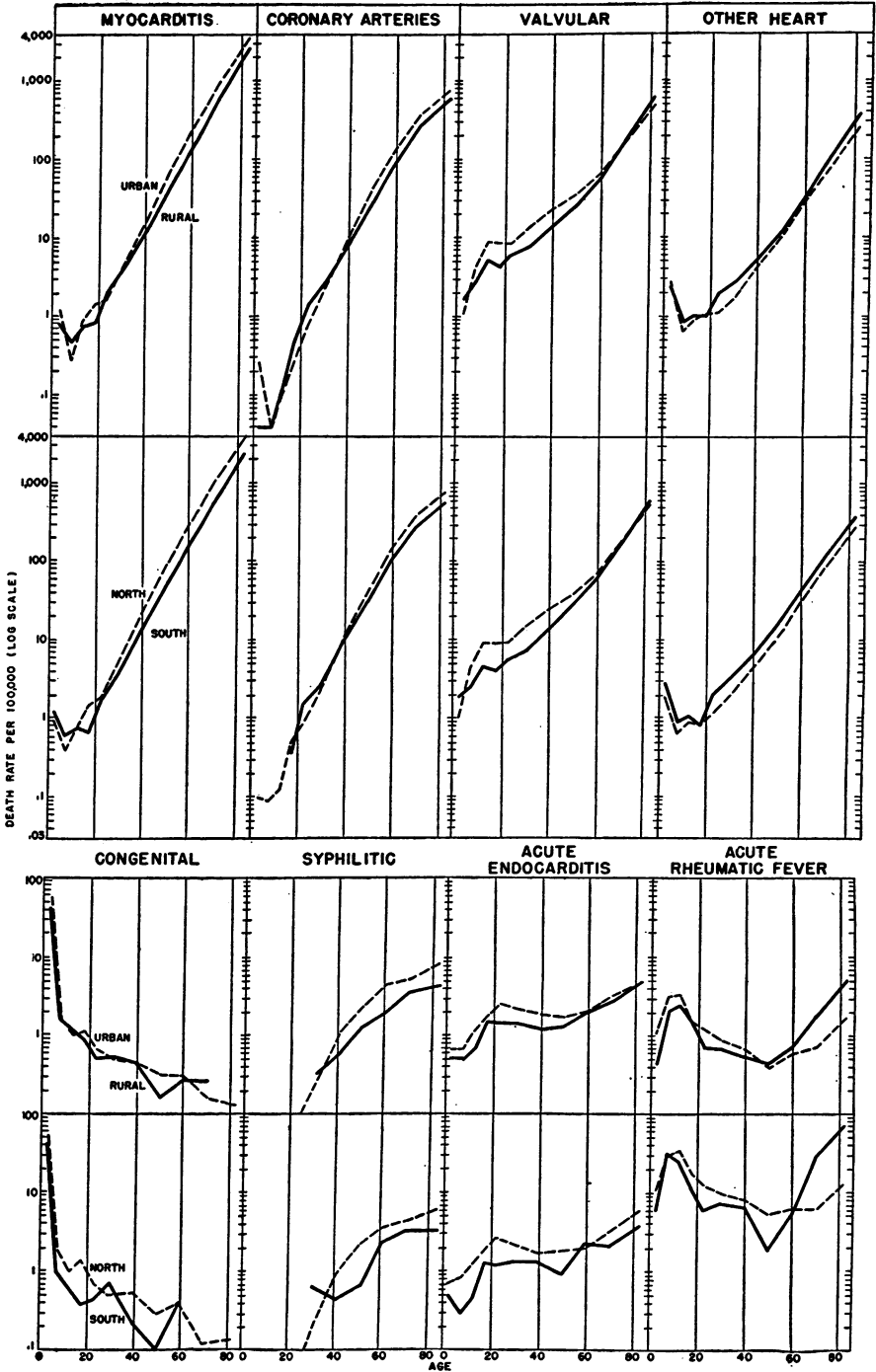


Figure 7. Age-specific female mortality from eight forms of heart disease in urban and rural parts of the United States and in North and South sections of the eastern United States: white resident mortality in 1940.

death rate increases at a constant percentage during this long age range. The corresponding curve for males rises more sharply during the adult years and then flattens off although it always keeps above the female rate.

The age-specific mortality curves for males and for females for each of the eight forms of heart disease are given on semilogarithmic grids in figure 5, based on appendix table 2. The four major forms illustrated in the top part of the figure show rapid increases with age from approximately 15 years onward. The curves for diseases of the coronary arteries bow upward throughout the adult ages but above age 60 the increase is at a much slower rate, especially for males. Deaths from diseases of the myocardium show a similar pattern, but the curves continue to rise at a faster rate than those for diseases of the coronary arteries. On the other hand, mortality from valvular heart disease has a plateau at ages 15-24 years, with acceleration in the rates throughout the balance of the life span. Beyond age 50, deaths from the subgroup, other diseases of the heart, show increased percentage changes for females but some retardation in the rise of the rates for males.

Acute endocarditis presents a curve of mortality that is different in shape from the four major forms of heart disease. Mortality from this cause is relatively high at ages 20-34 years, with only a slow increase in rates thereafter.

Deaths from acute rheumatic fever have their peak at ages 10-14 years. Then the mortality declines until age 50. After that it begins to increase, reaching the former peak level again in the oldest age groups.

The curve for congenital heart disease shows a rapid decline in mortality after its peak in the youngest age group. The curve for syphilitic heart disease mortality pictures the steady percentage increase for males during young adulthood, with some retardation during the older years of life.

Figures 6 and 7 illustrate for different age groups of males and females in the United States the urban-rural relationships discussed previously for all ages combined; the basic data are in appendix table 2. The higher urban rates at a specific period of life result in an age distribution that is younger in urban than in rural areas, particularly throughout the middle-adult years. This results in a lower mean age at death in cities.

The age-specific mortality curves for diseases of the myocardium, diseases of the coronary arteries, and syphilitic heart disease all show the urban rates as being higher than the rural rates at a given age during the middle and older years. The same pattern of higher urban mortality during the middle period of life is apparent for valvular heart disease and acute endocarditis, but there is a reversal during

the older years, with higher rural than urban mortality. The reversal in the older age groups occurs also for acute rheumatic fever, although both that form and congenital heart disease show higher urban rates during the young ages. Deaths from the subgroup, other diseases of the heart, have higher rural rates at nearly every age as would be expected from the nature of the classification.

The age-specific mortality rates for the North and South sections of the United States east of the Mississippi River are also illustrated in figures 6 and 7. The marked similarity between the two sets of curves given in these figures is apparent with the North and urban rates higher than their corresponding South and rural rates for a specific-age group.

Data on the urban-rural rates for the North and South sections are given in appendix table 2. The mortality rates for the total North tend to fall between those of the urban North and the urban South. The total South mortality curves plot between those of the rural North and the rural South. Thus the North and South mortality rates are a function of the degree of rurality with the North curve weighted in favor of urban areas and the South curve, in favor of rural areas.

Summary

Broad groups of specific forms of mortality from heart and closely related diseases have been set up according to a classification of the National Office of Vital Statistics. The eight forms in order of their magnitude among white males and females in the United States in 1940 are: diseases of the myocardium, diseases of the coronary arteries, chronic affections of the valves and endocardium, other diseases of the heart, congenital heart disease, syphilitic heart disease, acute endocarditis, and acute rheumatic fever.

Seven of the eight forms of heart disease showed a higher mortality for men of all ages (adjusted) than for women, the exception being acute rheumatic fever. Mortality from all but the subgroup, other diseases of the heart, was higher in the North than in the South sections of the Eastern United States. Recorded mortality tended to be higher in urban than in rural areas. Some of the specific forms of heart disease showed a pattern of steady decline as size of city decreased.

The association of mortality from the eight forms of heart disease with certain periods of life is established in graphic form. Death from congenital heart disease occurs mainly under 5 years of age. The major cause of heart mortality from 5 to 35 years is valvular heart disease; from 35 to 65 years, diseases of the coronary arteries; and over 65 years, diseases of the myocardium. Acute rheumatic fever is

in second position in the young ages, 5-19 years. Deaths from acute endocarditis are associated with young adulthood; those from syphilitic heart disease, with the middle-adult ages. Age-specific mortality rates in urban and rural parts of the United States and in North and South sections of the eastern United States are presented.

REFERENCES

- (1) Bureau of the Census: *Manual of the International List of Causes of Death* (fifth revision) 1938, and *Joint Causes of Death* (fourth edition) 1939. U. S. Government Printing Office, Washington, 1940.
- (2) Dunn, H. L. and Shackley, W.: *Comparison of cause-of-death assignments by the 1929 and 1938 revisions of the International List: Deaths in the United States, 1940*. Bureau of the Census, *Vital Statistics Special Reports 19*: 153-277 (1944).
- (3) *Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death*. Sixth revision of the International Lists of Diseases and Causes of Death. World Health Organization Bulletin, Supp. 1, Geneva, 1948, vols. 1 and 2.
- (4) National Office of Vital Statistics: *Discussion of returns from a 10-percent sample of death certificates received in vital statistics offices for October 1949 (and for January-October)*. *Current Mortality Analysis 7* (10): 1-4 (1950).
- (5) Erhardt, C. L. and Weiner, L.: *Changes in mortality statistics through the use of the new International Statistical Classification*. *Am. J. Pub. Health 40*: 6-16 (1950).

Other Reports in Statistical Studies of Heart Disease Series

- (6) Moriyama, I. M. and Gover, Mary: I. Heart diseases and allied causes of death in relation to age changes in the population. *Pub. Health Rep. 63*: 537-545 (1948). Reprint 2854.
- (7) Woolsey, T. D. and Moriyama, I. M.: II. Important factors in heart disease mortality trends. *Pub. Health Rep. 63*: 1247-1273 (1948). Reprint 2889.
- (8) Gover, Mary: III. Heart disease associated with other major causes of death as primary or contributory cause. *Pub. Health Rep. 64*: 104-109 (1949). Reprint 2915.
- (9) Gover, Mary: IV. Mortality from heart disease (all forms) related to geographic section and size of city. *Pub. Health Rep. 64*: 439-456 (1949). Reprint 2926.
- (10) Collins, S. D.: V. Illness from heart and other cardiovascular-renal diseases recorded in general morbidity surveys of families. *Pub. Health Rep. 64*: 1439-1492 (1949). Reprint 2979.
- (11) Woolsey, T. D.: VI. Age at onset of heart and other cardiovascular-renal diseases. *Pub. Health Rep. 65*: 555-571 (1950).

Appendix Table 1. Mortality from 8 specific forms of heart disease by sex, population size groups, and geographic section of the United States: white resident age-adjusted¹ mortality per 100,000 population in 1940

Geographic section and size of city	Diseases of the coronary arteries		Acute endocarditis		Chronic affections of the valves and endocardium		Diseases of the myocardium		Other diseases of the heart		Acute rheumatic fever		Syphilitic heart disease		Congenital heart disease	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	United States.....	111.93	46.54	1.98	1.69	39.50	34.84	102.91	135.00	25.01	15.71	1.15	1.19	4.29	1.08	5.84	4.45
100,000 and over.....	131.46	51.39	2.44	1.94	37.51	36.51	226.93	178.36	19.89	12.15	1.20	1.33	6.75	1.58	3.82	4.56
10,000-100,000.....	139.79	53.28	2.29	1.79	38.92	34.28	270.61	134.81	21.96	14.25	1.23	1.22	6.18	1.03	6.81	5.54
2,500-10,000.....	131.93	50.39	1.92	1.39	41.03	33.58	158.09	119.49	29.03	17.83	1.56	1.74	4.65	.87	7.53	5.60
Under 2,500 and rural.....	82.43	37.96	1.48	1.39	39.63	33.90	122.10	105.49	27.08	18.66	1.02	1.20	2.56	.74	5.22	3.83
New England.....	142.18	58.13	2.35	1.99	41.47	38.96	179.92	137.95	22.34	13.47	1.00	.83	3.54	.79	6.80	5.00
100,000 and over.....	143.43 ¹	55.18	2.29	2.18	39.44	41.65	242.02	204.24	17.81	12.15	.85	.74	5.28	.79	6.81	5.28
10,000-100,000.....	150.72	60.18	2.86	1.86	38.53	38.81	175.83	152.75	21.69	12.98	.98	.64	3.14	.64	7.81	5.45
2,500-10,000.....	158.45	58.85	2.06	1.46	43.74	35.73	158.58	137.11	25.85	14.95	1.13	.77	3.30	.67	7.09	5.28
Under 2,500 and rural.....	122.50	57.21	1.62	2.12	44.93	35.83	137.29	122.63	26.24	15.14	1.15	.78	2.37	1.10	6.19	4.01
Middle Atlantic.....	127.43	52.79	2.34	1.86	42.57	41.58	228.15	192.12	16.81	11.52	1.61	1.54	4.25	1.11	5.84	5.07
100,000 and over.....	132.18	54.01	2.11	1.59	39.81	43.00	265.93	222.94	12.09	8.70	1.64	1.68	5.42	1.39	5.53	4.65
10,000-100,000.....	138.79	52.11	2.52	1.73	41.11	38.75	196.21	159.67	17.92	11.71	1.84	1.60	3.14	.94	5.41	5.30
2,500-10,000.....	132.69	54.72	2.64	3.04	39.11	36.06	193.00	153.42	20.49	13.47	2.01	1.33	3.62	.72	5.95	5.92
Under 2,500 and rural.....	107.55	50.30	2.41	2.02	46.63	42.34	202.53	180.12	21.76	15.59	1.26	1.30	3.26	.89	6.53	5.25
East North Central.....	105.72	45.17	2.12	1.99	39.36	34.00	166.06	140.88	28.06	18.16	1.13	1.32	3.98	1.12	6.60	4.87
100,000 and over.....	112.57	46.52	2.63	2.46	35.12	33.69	228.63	180.44	20.50	17.46	1.01	1.46	5.55	1.58	5.52	4.46
10,000-100,000.....	125.23	50.46	1.99	1.97	37.08	32.89	160.70	136.96	26.69	15.93	1.43	1.36	3.55	.83	8.07	5.78
2,500-10,000.....	117.08	43.55	1.71	1.71	43.69	30.69	144.80	117.82	26.73	18.05	1.25	1.39	3.87	1.25	7.24	4.74
Under 2,500 and rural.....	86.96	41.12	1.73	1.59	42.10	34.86	132.02	117.60	27.02	10.69	.98	1.14	3.02	1.05	6.53	4.73
West North Central.....	98.42	41.81	1.81	1.90	39.03	34.05	108.76	87.62	22.14	14.84	.98	1.15	4.04	1.08	6.33	4.68
100,000 and over.....	133.26	50.58	2.25	1.65	37.70	34.90	159.32	117.21	19.69	12.24	.90	.85	10.23	2.62	6.28	4.55
10,000-100,000.....	138.26	49.79	2.85	2.19	42.99	35.15	131.16	98.95	25.34	15.07	.95	1.43	4.40	1.10	8.46	5.87
2,500-10,000.....	120.63	53.71	1.82	2.17	41.18	35.64	128.93	92.55	31.32	17.21	2.17	1.43	4.48	1.28	8.96	5.72
Under 2,500 and rural.....	74.90	33.59	1.37	1.89	37.59	32.91	85.68	71.78	20.42	15.31	.85	1.15	1.86	1.40	5.48	4.33
South Atlantic.....	106.64	41.10	1.87	1.47	39.25	31.26	135.74	106.62	34.38	20.27	1.28	1.25	3.37	.70	4.95	3.78
100,000 and over.....	145.70	48.97	3.10	2.40	37.53	30.92	196.12	147.59	19.76	10.47	1.61	.85	7.23	1.43	5.65	5.25
10,000-100,000.....	157.64	52.31	3.09	1.19	37.01	29.15	166.25	108.43	35.15	16.45	.83	.96	4.27	1.49	4.22	5.22
2,500-10,000.....	154.59	52.09	2.66	1.97	41.26	29.45	155.59	103.14	40.82	25.54	2.02	.92	4.43	.55	9.98	7.26
Under 2,500 and rural.....	75.96	32.25	1.32	1.18	39.76	32.40	108.18	90.96	37.34	24.35	1.17	1.50	1.83	.31	4.52	3.16

See footnote at end of table.

Appendix Table 1. *Mortality from 8 specific forms of heart disease by sex, population size groups, and geographic section of the United States: white resident age-adjusted¹ mortality per 100,000 population in 1940—Continued*

Geographic section and size of city	Diseases of the coronary arteries		Acute endocarditis		Chronic affections of the valves and endocardium		Diseases of the myocardium		Other diseases of the heart		Acute rheumatic fever		Syphilitic heart disease		Congenital heart disease	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
East South Central	79.41	35.58	.84	.83	43.64	34.75	103.35	81.99	35.71	23.43	1.28	1.26	2.72	4.56	4.46	3.12
100,000 and over	174.22	59.17	.93	2.03	27.76	22.12	162.78	124.54	28.08	15.76	1.87	3.43	4.26	7.61	6.27	3.87
10,000-100,000	174.22	59.17	.93	1.78	50.50	38.77	168.97	116.16	34.25	17.52	1.84	2.21	8.48	6.97	5.00	5.89
2,500-10,000	135.64	53.63	2.10	.86	48.74	38.06	132.18	84.59	38.76	26.24	.67	.67	4.62	7.61	3.80	3.65
Under 2,500 and rural	31.16	25.37	.82	.82	44.46	36.10	83.26	66.87	36.59	25.71	1.37	.96	1.42	3.80	3.80	2.73
West South Central	64.65	40.26	1.51	1.14	28.98	23.84	105.02	81.13	38.88	20.86	.74	1.02	4.00	4.46	4.46	3.55
100,000 and over	155.77	57.89	2.97	1.44	28.29	29.04	194.07	130.41	46.82	17.09	.60	.67	10.45	6.27	6.27	4.56
10,000-100,000	155.77	57.89	2.97	1.44	26.93	21.52	185.45	93.86	42.07	20.28	.68	.80	6.47	5.00	4.56	4.56
2,500-10,000	132.70	46.20	1.53	1.55	34.89	21.88	137.17	91.55	45.32	24.53	.94	1.33	3.87	6.28	6.28	6.34
Under 2,500 and rural	60.05	28.50	.97	.70	23.34	23.32	73.06	59.09	34.66	21.18	.78	1.15	1.70	3.74	3.74	2.70
Mountain	93.07	36.89	2.27	2.10	40.26	38.16	131.26	103.65	24.07	16.07	1.40	1.03	4.42	6.55	6.55	4.76
100,000 and over	117.28	34.38	3.97	4.47	34.59	44.52	165.34	123.28	18.38	16.31	.93	1.77	6.49	8.90	8.90	4.80
10,000-100,000	123.36	50.39	3.06	2.12	46.40	36.09	166.86	116.41	26.33	17.35	1.11	.56	6.43	6.90	7.64	6.64
2,500-10,000	134.52	43.57	1.84	2.25	63.32	50.47	188.22	109.10	33.70	17.80	1.41	1.67	5.39	9.50	9.50	5.62
Under 2,500 and rural	68.78	29.28	1.83	1.47	34.10	33.74	105.12	88.85	22.46	14.88	1.57	.95	3.09	5.48	5.48	3.83
Pacific	126.06	48.08	2.05	1.28	37.95	29.46	183.82	126.29	15.86	9.85	.56	.59	8.16	6.71	6.71	4.62
100,000 and over	136.89	48.58	2.92	1.56	38.69	28.89	200.93	132.22	14.59	9.48	.31	.52	10.66	6.17	6.17	4.56
10,000-100,000	148.43	55.44	1.85	.98	38.70	27.99	189.84	120.70	15.77	9.48	.77	.55	6.81	8.07	8.07	5.59
2,500-10,000	143.38	50.21	2.02	1.18	46.26	33.85	189.11	124.29	21.12	13.00	1.50	.77	11.23	7.61	7.61	5.43
Under 2,500 and rural	99.78	40.95	1.20	1.08	34.70	30.61	160.25	120.70	15.98	9.87	.47	.67	5.29	6.38	6.38	4.16

¹ Adjusted for age by the direct method to the population of the United States enumerated in 1940.

Appendix Table 2. Mortality from 8 specific forms of heart disease by sex, age, urbanization, and geographic section of the United States: white resident mortality per 100,000 population in 1940

Age	Male								Female							
	Diseases of the coronary arteries	Acute endo-carditis	Chronic affec-tions of the valves and endo-cardium	Diseases of the myo-cardium	Other diseases of the heart	Acute rheu-matic fever	Syphilitic heart disease	Congen-i-tal heart disease	Diseases of the coronary arteries	Acute endo-carditis	Chronic affec-tions of the valves and endo-cardium	Diseases of the myo-cardium	Other diseases of the heart	Acute rheu-matic fever	Syphilitic heart disease	Congen-i-tal heart disease
All ages.....	111.83	1.98	39.50	162.91	25.01	1.15	4.29	5.84	46.54	1.69	34.84	135.00	15.71	1.19	1.08	4.45
Under 5.....	.34	.62	1.59	1.30	2.23	.70	.....	65.95	.15	.60	1.32	1.06	2.52	.75	.....	48.41
5-9.....	.10	.51	3.84	.59	1.89	1.92	.....	1.92	.04	.91	3.56	.37	.....	2.57	.....	1.64
10-14.....	.11	.84	6.97	.68	1.10	2.49	.08	1.92	.12	.92	7.14	.80	.....	2.93	.....	1.00
15-19.....	.47	1.18	7.71	1.49	1.45	1.54	.04	1.92	.30	1.73	6.77	1.84	.....	1.50	.....	1.01
20-24.....	1.17	1.60	8.95	1.80	1.72	1.92	.16	1.92	.98	2.14	7.71	1.74	.....	1.04	.....	.61
25-34.....	6.39	2.03	11.32	4.86	3.21	1.00	.54	.52	2.44	1.05	11.68	4.57	.....	2.08	.....	.50
35-44.....	47.98	1.94	20.12	25.26	9.54	.78	3.18	.41	9.98	1.69	20.26	16.89	.....	.80	.....	.44
45-54.....	165.96	2.65	40.51	114.21	26.85	.50	9.82	.53	36.68	1.89	33.65	11.95	.....	2.02	.....	.26
55-64.....	379.71	4.26	84.25	373.22	64.83	.62	17.46	.20	124.06	2.07	62.25	242.31	.....	3.53	.....	.29
65-74.....	671.22	3.84	203.37	1,088.42	144.94	1.19	18.87	.34	355.91	3.05	163.29	837.16	.....	4.67	.....	.08
75 and over.....	1,075.61	6.37	552.82	3,206.87	354.81	2.67	13.08	.17	700.33	6.01	543.48	3,139.39	.....	2.96	.....	.08

TOTAL UNITED STATES

URBAN UNITED STATES—CITIES AND TOWNS OF 2,500 AND OVER POPULATION

Age	Male								Female							
	Diseases of the coronary arteries	Acute endo-carditis	Chronic affec-tions of the valves and endo-cardium	Diseases of the myo-cardium	Other diseases of the heart	Acute rheu-matic fever	Syphilitic heart disease	Congen-i-tal heart disease	Diseases of the coronary arteries	Acute endo-carditis	Chronic affec-tions of the valves and endo-cardium	Diseases of the myo-cardium	Other diseases of the heart	Acute rheu-matic fever	Syphilitic heart disease	Congen-i-tal heart disease
All ages.....	134.49	2.33	38.75	196.35	23.09	1.28	5.56	6.47	51.89	1.86	35.39	153.54	13.84	1.29	1.28	5.09
Under 5.....	.30	.56	1.34	1.60	2.25	1.00	.....	72.39	.27	.68	1.04	1.31	.....	1.08	.....	56.12
5-9.....	.04	.60	4.02	.52	1.73	2.51	.....	1.73	.04	.71	4.34	.87	.....	3.35	.....	1.68
10-14.....	.06	1.05	7.42	.79	1.09	3.07	.07	1.16	.11	1.25	8.94	.87	.....	2.67	.....	1.90
15-19.....	.42	1.45	9.76	1.56	1.25	1.78	.30	1.28	.30	1.86	8.65	1.39	.....	1.62	.....	1.12
20-24.....	1.20	2.13	10.29	1.78	1.78	1.89	.17	.96	.74	2.56	8.63	1.60	.....	1.23	.....	.68
25-34.....	7.57	2.61	13.92	5.92	3.26	1.13	.69	.51	2.32	2.23	13.83	4.55	.....	1.73	.....	.48
35-44.....	57.95	2.49	23.65	31.19	10.07	.85	4.05	.47	10.79	1.95	23.75	18.89	.....	.67	.....	.44
45-54.....	204.06	3.18	43.62	143.42	27.32	.43	12.42	.32	41.62	1.74	37.55	83.73	.....	2.40	.....	.32
55-64.....	464.58	4.96	85.90	467.36	63.79	.45	23.15	.21	141.58	2.08	65.16	289.55	.....	3.60	.....	.29
65-74.....	805.01	3.78	190.29	1,281.99	129.34	1.03	24.61	.51	374.87	3.22	186.48	965.18	.....	4.71	.....	.16
75 and over.....	1,229.07	4.52	450.38	3,686.55	296.01	1.84	17.24	.17	769.94	5.01	487.75	3,479.24	.....	1.63	.....	.13

Appendix Table 2. Mortality from 8 specific forms of heart disease by sex, age, urbanization, and geographic section of the United States: white resident mortality per 100,000 population in 1940—Continued

Age	Male								Female							
	Diseases of the coronary arteries	Acute endocarditis	Chronic affections of the valves and endocardium	Diseases of the myocardium	Other diseases of the heart	Acute rheumatic fever	Syphilitic heart disease	Congenital heart disease	Diseases of the coronary arteries	Acute endocarditis	Chronic affections of the valves and endocardium	Diseases of the myocardium	Other diseases of the heart	Acute rheumatic fever	Syphilitic heart disease	Congenital heart disease
All ages.....	82.43	1.48	39.63	122.10	27.08	1.02	2.56	5.22	37.96	1.39	33.90	105.49	18.66	1.10	0.74	3.83
Under 5.....	38.12	.67	1.84	1.00	2.21	.42	.....	58.58	.04	.52	1.60	.82	2.30	.44	.04	40.98
5-9.....	12.10	.41	2.89	.66	1.12	1.36	.....	1.32	.04	.52	2.79	.47	.80	2.06	.....	1.69
10-14.....	1.12	.62	4.67	.60	1.02	1.80	.06	1.69	.12	.69	5.23	.73	.97	2.48	.....	1.01
15-19.....	1.53	.88	5.45	1.41	1.68	1.33	.....	.95	.50	1.63	4.43	.83	.95	1.71	.....	.87
20-24.....	1.54	.91	5.55	1.82	1.64	1.36	.14	.86	1.30	1.46	6.21	2.02	.95	1.49	.....	.80
25-34.....	4.62	1.16	7.47	3.35	3.38	.82	.....	.86	1.30	1.46	7.09	4.33	2.70	.67	.....	.63
35-44.....	30.89	1.66	14.98	13.87	8.70	.66	1.75	.85	8.51	1.54	14.24	13.68	5.40	.84	.....	.44
45-54.....	106.06	3.32	33.17	69.11	26.38	.62	3.77	.58	28.21	1.33	20.92	50.68	12.44	.43	.....	.46
55-64.....	265.51	3.90	82.10	246.55	66.46	.84	9.81	.19	65.81	2.06	57.35	169.14	33.41	2.00	.....	.97
65-74.....	517.72	3.90	218.39	788.97	161.99	1.39	12.50	.15	273.46	2.80	174.21	631.93	103.37	1.83	.....	.26
75 and over.....	913.31	8.32	661.17	2,699.57	416.99	3.54	8.68	.18	593.21	5.01	623.24	2,616.38	371.07	5.01	.....	.....
TOTAL NORTH 1																
All ages.....	120.23	2.25	41.09	193.83	22.57	1.32	4.03	6.32	50.53	1.94	38.05	165.19	14.62	1.35	1.07	4.97
Under 5.....	28.14	.74	1.54	1.30	1.67	.75	.....	70.85	.10	.73	1.02	.97	1.99	1.11	.....	53.97
5-9.....	11.16	.73	4.41	.54	.54	2.41	.....	1.27	.09	.85	4.62	.38	.66	2.92	.....	1.88
10-14.....	1.16	1.14	7.24	.67	.98	2.99	.16	1.14	.12	1.30	9.33	.81	.86	3.45	.....	1.97
15-19.....	1.37	1.51	10.63	1.73	1.51	1.77	.....	1.40	.48	1.90	9.14	1.42	.86	1.79	.....	1.34
20-24.....	1.20	1.86	10.63	1.78	1.98	1.08	.12	1.09	.86	2.74	9.28	1.80	1.17	1.24	.....	.71
25-34.....	1.29	2.59	15.01	5.72	3.01	1.32	.54	.68	2.30	2.24	14.99	5.33	2.00	.97	.....	.48
35-44.....	51.77	2.34	23.50	23.61	9.15	1.85	.....	.87	10.45	2.72	24.56	20.36	4.64	.80	.....	.53
45-54.....	179.39	2.54	43.79	134.42	25.07	.55	2.90	.25	40.34	1.86	37.98	90.07	10.98	.62	.....	.20
55-64.....	407.02	4.42	83.80	443.84	56.24	.52	9.32	.22	140.14	2.03	67.93	308.58	31.35	.62	.....	.39
65-74.....	725.81	3.62	197.70	1249.18	126.27	.92	17.31	.39	367.08	3.27	168.35	1032.22	80.32	3.74	.....	.12
75 and over.....	1130.51	7.19	542.17	3900.38	318.84	2.34	9.37	.17	735.83	6.07	554.32	3768.12	272.95	1.24	.....	.14

URBAN NORTH—CITIES AND TOWNS OF 2,500 AND OVER POPULATION

All ages.....	130.23	2.34	38.69	213.17	20.98	1.42	4.49	6.23	52.16	1.97	37.87	175.72	13.29	1.43	1.10	5.04
Under 5.....	.28	.57	1.48	1.27	1.77	.99	.....	69.15	.07	.59	1.10	1.02	1.91	1.25	.....	54.92
6-9.....	.07	.62	2.09	.55	.48	2.89	.....	1.38	.07	.92	5.18	.28	.64	3.33	.....	1.77
10-14.....	.06	1.11	8.30	.70	.94	3.27	.12	1.29	.12	1.37	10.37	.71	.71	3.46	.....	1.89
15-19.....	.38	1.68	11.48	1.73	1.63	3.94	.....	1.35	.32	1.94	10.30	1.58	.89	1.73	.06	1.31
20-24.....	1.09	2.18	12.14	6.24	2.01	1.95	.....	1.25	.80	2.69	9.99	1.48	1.24	1.44	.....	1.75
25-34.....	7.55	2.85	17.06	6.24	2.79	1.40	.05	.57	2.18	2.34	16.12	4.84	1.76	1.98	.06	1.45
35-44.....	57.58	2.68	26.47	32.64	9.56	.97	.57	.44	10.55	1.88	26.92	21.21	4.19	1.44	.16	1.45
45-54.....	197.64	2.70	44.11	152.18	24.75	1.40	3.05	.21	41.57	1.71	40.09	97.65	10.58	.57	.91	1.56
55-64.....	448.79	4.51	80.16	503.09	57.78	.88	10.20	.27	147.56	3.30	68.02	339.26	29.94	.64	2.14	1.86
65-74.....	785.23	3.40	178.33	1,399.55	117.31	.93	19.76	.61	381.08	2.51	159.40	1,116.21	75.53	.70	4.39	4.43
75 and over.....	1,109.43	5.32	431.85	4,035.71	268.75	1.98	11.49	.....	746.02	5.29	508.74	3,921.78	231.99	1.22	6.92	.20

RURAL NORTH—TOWNS OF LESS THAN 2,500 POPULATION AND RURAL AREAS

All ages.....	98.38	1.96	44.04	156.35	25.16	1.10	3.03	6.50	46.52	1.81	37.68	140.08	17.66	1.16	1.01	4.85
Under 5.....	.27	1.09	1.63	1.36	1.50	.27	.....	74.16	.14	.99	.85	.85	2.13	.85	.....	52.13
6-9.....	.27	.93	3.07	.63	1.07	1.47	.....	1.07	.14	.70	3.51	.56	.70	2.10	.14	2.11
10-14.....	.36	1.20	5.06	.60	1.08	2.41	.24	.84	.13	1.15	7.13	.84	1.27	3.44	.....	1.15
15-19.....	.35	1.16	7.85	1.73	1.96	1.39	.....	1.50	.90	1.80	6.29	1.03	1.77	1.92	.....	1.41
20-24.....	1.48	1.08	6.88	2.16	1.89	1.35	.....	.67	1.08	2.92	7.07	2.46	.92	.62	.....	1.62
25-34.....	6.57	1.88	9.38	4.30	3.60	1.10	.27	.63	2.67	1.92	11.45	6.85	2.76	.92	.33	.68
35-44.....	35.38	1.40	17.91	21.34	7.99	.53	2.46	.18	10.14	1.22	17.27	17.74	6.01	.66	.03	.47
45-54.....	130.34	2.14	42.92	86.67	25.92	.66	6.97	.37	35.92	2.26	30.16	68.23	12.14	.41	1.03	1.10
55-64.....	314.25	4.22	91.92	312.20	62.49	.84	12.30	.12	133.83	1.51	67.70	230.10	34.95	.54	2.37	.27
65-74.....	620.26	4.02	232.10	982.12	142.18	.92	12.98	.18	321.85	2.71	189.63	832.70	91.69	.42	4.38	.42
75 and over.....	1,072.86	9.96	705.56	3,451.64	393.04	3.33	6.23	.42	714.40	7.70	650.20	3,444.90	359.13	1.29	4.28	.....

TOTAL SOUTH *

All ages.....	96.34	1.48	40.97	123.34	34.91	1.27	3.12	4.80	39.07	1.23	32.57	97.47	21.44	1.26	.67	3.52
Under 5.....	.40	.20	2.08	1.19	2.26	.92	.....	54.29	.20	.51	1.84	1.23	2.77	.62	.....	39.12
6-9.....	.20	.20	3.15	.70	1.67	1.77	.....	1.74	.....	.20	2.53	.61	1.05	3.14	.....	2.11
10-14.....	.09	.65	5.27	.83	1.48	2.69	.....	.87	.....	.48	4.50	.77	1.84	2.49	.....	1.58
15-19.....	.66	.50	7.24	1.63	1.93	1.47	.....	.37	.....	1.30	4.00	.65	2.04	1.42	.....	.57
20-24.....	1.46	1.14	4.68	1.77	1.73	.63	.21	1.53	.37	1.92	5.62	1.74	2.04	1.51	.....	.41
25-34.....	5.66	1.66	9.66	3.83	4.01	.89	2.29	.23	2.73	1.84	7.20	3.77	2.25	.76	.64	.70
35-44.....	47.06	1.96	15.00	21.42	12.52	.61	2.41	.23	10.31	1.84	13.37	14.49	6.65	.67	.45	.22
45-54.....	155.90	2.36	33.93	89.92	54.12	.66	8.01	.28	31.42	1.96	27.39	51.31	13.76	.19	.67	.45
55-64.....	341.98	4.08	87.47	298.11	214.38	1.76	11.29	.45	106.17	2.32	66.62	173.26	44.55	.55	2.46	.41
65-74.....	534.26	3.40	288.94	753.40	509.28	1.13	14.49	.....	272.28	164.41	189.41	681.95	124.54	2.83	3.36	.....
75 and over.....	844.14	4.44	669.10	2,446.81	509.28	5.08	8.24	.45	577.37	3.91	598.59	2,305.02	382.55	7.26	.....	.....

See footnotes at end of table.

Appendix Table 2. Mortality from 8 specific forms of heart disease by sex, age, urbanization, and geographic section of the United States: white resident mortality per 100,000 population in 1940—Continued

Age	Male								Female							
	Diseases of the coronary arteries	Acute endocarditis	Chronic affections of the valves and endocardium	Diseases of the myocardium	Other diseases of the heart	Acute rheumatic fever	Syphilitic heart disease	Congenital heart disease	Diseases of the coronary arteries	Acute endocarditis	Chronic affections of the valves and endocardium	Diseases of the myocardium	Other diseases of the heart	Acute rheumatic fever	Syphilitic heart disease	Congenital heart disease
All ages.....	151.20	2.13	38.97	171.78	30.61	1.34	5.63	6.48	52.66	1.72	30.56	120.76	16.62	1.34	1.13	4.98
Under 5.....	.38	.38	1.13	3.02	4.90	1.88	.....	75.77	.78	.39	1.78	1.56	5.06	1.17	.....	56.79
5-9.....	.38	.77	2.30	.38	2.87	1.92	.....	1.53	.....	.....	1.95	.39	3.90	3.90	.....	.39
10-14.....	.....	1.02	6.77	.....	1.26	3.05	.....	1.02	.....	1.02	4.76	1.02	1.36	3.74	.....	.68
15-19.....	.....	.62	8.12	.94	.....	1.25	.....	.....	.....	2.02	4.32	.86	.86	1.16	.....	.68
20-24.....	2.35	1.47	8.81	2.64	1.59	1.18	.69	.....	1.03	2.06	5.66	2.06	.51	1.77	.....	.61
25-34.....	8.74	1.60	7.08	4.52	4.22	1.51	.....	.45	.....	1.95	9.77	4.33	3.07	1.12	.84	.98
35-44.....	75.32	3.01	19.53	28.17	13.52	1.75	3.76	.....	13.68	1.95	17.24	15.82	5.86	1.18	.71	.36
45-54.....	253.41	3.36	36.24	127.91	63.72	.24	13.92	.48	40.43	2.07	28.48	66.62	13.09	.....	1.15	.23
55-64.....	533.96	7.05	91.22	426.80	84.17	1.11	23.36	.....	144.83	1.64	58.46	222.01	34.48	.....	1.15	.23
65-74.....	828.03	4.06	217.83	1,097.96	171.15	.68	24.35	1.35	372.99	3.25	152.88	719.96	88.37	1.63	5.42	.....
75 and over.....	1,303.10	3.87	524.73	3,189.02	387.25	1.94	15.49	.....	783.17	5.36	476.07	2,829.59	300.39	5.36	4.02	.....
URBAN SOUTH 1—CITIES AND TOWNS OF 2,500 AND OVER POPULATION																
All ages.....	65.33	1.11	41.78	97.56	37.04	1.26	1.65	4.22	29.38	0.90	33.96	80.88	24.93	1.28	0.35	2.97
Under 5.....	.40	.13	2.42	.54	1.34	.67	.....	46.63	.....	.56	2.22	1.11	1.95	.42	.....	32.81
5-9.....	.13	.....	3.44	.93	1.72	1.72	.....	1.06	.....	.41	2.74	.60	1.10	2.88	.....	.11
10-14.....	.....	.51	4.71	.25	1.15	2.55	.....	.64	.....	.77	4.41	.67	.64	2.00	.....	.53
15-19.....	.52	.62	4.04	.78	2.20	1.56	.66	.....	1.55	.66	3.95	.55	.82	1.09	.....	.57
20-24.....	.97	.97	4.01	1.99	2.80	1.64	.....	.52	1.55	.66	4.96	.52	3.06	1.09	.....	.57
25-34.....	3.68	1.46	6.39	3.39	3.87	.64	.....	1.61	1.88	.68	4.57	3.36	3.36	.91	.....	.34
35-44.....	28.10	1.70	11.97	16.89	8.87	.69	.....	.58	2.88	.89	5.37	3.36	3.36	1.08	.50	.50
45-54.....	62.82	1.71	32.44	65.55	32.44	1.94	1.51	.58	7.80	.90	10.87	13.94	7.22	1.08	.28	.13
55-64.....	230.76	2.36	85.29	207.76	62.81	2.15	24.94	.....	200.72	2.81	40.31	138.53	17.68	1.33	.47	.70
65-74.....	386.51	3.06	249.39	580.11	236.13	1.36	78.63	1.11	280.72	1.54	172.69	453.88	150.25	3.85	1.93	.....
75 and over.....	620.58	4.72	739.42	2,065.28	508.71	6.60	430.55	.....	430.55	2.87	686.00	1,980.77	458.28	8.61	2.87	.....
RURAL SOUTH 2—TOWNS OF LESS THAN 2,500 POPULATION AND RURAL AREAS																
All ages.....	65.33	1.11	41.78	97.56	37.04	1.26	1.65	4.22	29.38	0.90	33.96	80.88	24.93	1.28	0.35	2.97
Under 5.....	.40	.13	2.42	.54	1.34	.67	.....	46.63	.....	.56	2.22	1.11	1.95	.42	.....	32.81
5-9.....	.13	.....	3.44	.93	1.72	1.72	.....	1.06	.....	.41	2.74	.60	1.10	2.88	.....	.11
10-14.....	.....	.51	4.71	.25	1.15	2.55	.....	.64	.....	.77	4.41	.67	.64	2.00	.....	.53
15-19.....	.52	.62	4.04	.78	2.20	1.56	.66	.....	1.55	.66	3.95	.55	.82	1.09	.....	.57
20-24.....	.97	.97	4.01	1.99	2.80	1.64	.....	.52	1.55	.66	4.96	.52	3.06	1.09	.....	.57
25-34.....	3.68	1.46	6.39	3.39	3.87	.64	.....	1.61	1.88	.68	4.57	3.36	3.36	.91	.....	.34
35-44.....	28.10	1.70	11.97	16.89	8.87	.69	.....	.58	2.88	.89	5.37	3.36	3.36	1.08	.50	.50
45-54.....	62.82	1.71	32.44	65.55	32.44	1.94	1.51	.58	7.80	.90	10.87	13.94	7.22	1.08	.28	.13
55-64.....	230.76	2.36	85.29	207.76	62.81	2.15	24.94	.....	200.72	2.81	40.31	138.53	17.68	1.33	.47	.70
65-74.....	386.51	3.06	249.39	580.11	236.13	1.36	78.63	1.11	280.72	1.54	172.69	453.88	150.25	3.85	1.93	.....
75 and over.....	620.58	4.72	739.42	2,065.28	508.71	6.60	430.55	.....	430.55	2.87	686.00	1,980.77	458.28	8.61	2.87	.....

North: New England, Middle Atlantic, and East North Central regions. 2 South: South Atlantic and East South Central regions.

New *Salmonella* Type: *Salmonella duval*

By P. R. EDWARDS and MARY G. WEST*

Salmonella duval is represented by two cultures, both of which were isolated from rectal swabs taken from two normal dogs during the course of a survey to determine the incidence of *Salmonella* carriers among dogs in Florida. The cultures were isolated by Mrs. Mildred M. Galton who recognized them as unusual *Salmonella* types and forwarded them for identification.

The cultures were typical members of the genus *Salmonella*. They were motile rods which produced hydrogen sulfide and utilized citrate and d-tartrate but failed to produce indol, to hydrolyze urea, or to liquefy gelatin. Acid and gas were produced from glucose, arabinose, maltose, mannitol, and sorbitol. Lactose, sucrose, raffinose, dulcitol, inositol, adonitol, and salicin were not attacked.

The O antigens of the organisms were closely related to those of *Salmonella riogrande* (XL). Antigen I was present in the cultures and was subject to form variation, as it is in many *Salmonella* types.¹ In absorption tests the organisms removed all agglutinins from O serums prepared from *S. riogrande* (XL) and from *Salmonella allandale* (I, XL).

The H antigens of the organisms were diphasic and phase 1 was flocculated to the titer of serum derived from phase 1 of *Salmonella paratyphi B* (b). In absorption tests *S. duval* reduced the titer of the serum from 10,000 to 100. Phase 1 of *S. duval* may be denoted by the symbol b. Phase 2 of *S. duval* was agglutinated in high dilution by e, n, x and e, n, z₁₅ serums. When tested with absorbed serums for factors x and z₁₅ it was agglutinated only by the latter. In absorption tests phase 2 of *S. duval* removed all agglutinins from serum derived from phase 2 of *Salmonella glostrup* (e, n, z₁₅). The antigenic formula of *S. duval* is I, XL:b-e, n, z₁₅.

Summary

A new *Salmonella* type, *Salmonella duval*, having the antigenic formula I, XL:b-e, n, z₁₅ is described. It is represented by two cultures both of which were isolated from the intestinal tracts of normal dogs.

*Bacteriologists from the Laboratory Services, Communicable Disease Center, Atlanta, Ga.

¹ Kauffmann, F.: Proc. 3d Internat. Cong. Microbiol. 1940, pp. 628-629.

INCIDENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED JUNE 10, 1950

Poliomyelitis

Reported cases of poliomyelitis in the United States increased from 132 last week to 206 for the current week. For the corresponding weeks of last year, 156 and 243 cases, respectively, were reported. The largest numbers of cases for the current week were reported by Texas (61), California (18), Missouri (12), and Louisiana (9). For the preceding week the largest number of cases were reported by Texas (55), California (18), Oklahoma (12), and Florida (7).

The cumulative total number of poliomyelitis cases for the calendar year is misleading because the calendar year does not correspond with the "disease" year. A calendar year covers January through December, while the "disease" year for poliomyelitis covers March through February. Therefore, the 1950 calendar year includes the

Comparative Data for Cases of Specified Reportable Diseases: United States

[Numbers after diseases are International List numbers, 1948 revision]

Disease	Total for week ended		5-year median 1945-49	Seasonal low week	Cumulative total since seasonal low week		5-year median 1944-45 through 1948-49	Cumulative total for calendar year		5-year median 1945-49
	June 10, 1950	June 11, 1949			1949-50	1948-49		1950	1949	
Anthrax (062)-----	1	2	(¹)	(¹)	(¹)	(¹)	(¹)	19	28	(¹)
Diphtheria (055)-----	69	109	152	27th	7,157	8,554	13,275	2,886	3,440	5,709
Acute infectious encephalitis (082)-----	12	16	7	(¹)	(¹)	(¹)	(¹)	295	233	200
Influenza (480-483)-----	1,015	896	691	30th	272,613	108,810	178,126	242,083	72,540	134,568
Measles (085)-----	14,273	16,813	16,813	35th	253,699	588,507	503,970	234,569	536,114	469,024
Meningococcal meningitis (057.0)-----	75	59	60	37th	2,973	2,685	2,914	2,060	1,814	1,942
Pneumonia (490-493)-----	1,513	1,045	-----	(¹)	(¹)	(¹)	-----	52,245	47,152	-----
Acute poliomyelitis (080)-----	206	243	160	11th	1,087	1,103	725	2,221	2,018	1,192
Rocky Mountain spotted fever (104)-----	23	27	22	(¹)	(¹)	(¹)	(¹)	100	155	105
Scarlet fever (050)-----	946	1,075	1,555	32d	52,909	76,624	82,426	36,470	54,080	55,740
Smallpox (084)-----	1	1	2	35th	(¹)	43	50	190	23	40
Tularemia (059)-----	12	33	28	(¹)	(¹)	(¹)	(¹)	446	563	446
Typhoid and paratyphoid fever (040, 041) ² -----	65	89	80	11th	669	641	728	1,179	1,129	1,201
Whooping cough (056)-----	3,150	1,216	1,886	39th	83,036	33,725	72,605	61,500	23,692	46,339

¹ Not computed.

² Including cases reported as salmonellosis.

declining phase of last year's high incidence. On this basis, the total for the current "disease" year is slightly less than the corresponding total for last year, 1,087 cases as compared with 1,103. Corresponding cumulative totals by State show Texas with 375 cases which may be compared with 358 last year, and California with 163 cases which may be compared with 116 cases last year.

Other Diseases

The total number of cases of influenza reported was 1,015 as compared with 1,590 last week and 896 for the corresponding period last year. The 5-year (1945-49) median was 691. States reporting the largest number of influenza cases for the week were Texas (437), Virginia (199), and Arizona (96).

Incidence of whooping cough reported increased from 2,484 cases last week to 3,150 for the current week. For the corresponding period last year, 1,216 cases were reported. The 5-year median was 1,886.

One case of anthrax was reported in New Jersey, and one case of smallpox was reported in Kansas. Reported cases of infectious encephalitis numbered 12 for the week as compared with 9 for the preceding week, 16 for the corresponding week last year, and 7 for the 5-year median.

DEATHS DURING WEEK ENDED JUNE 10, 1950

	Week ended June 10, 1950	Corresponding week, 1949
Data for 93 large cities of the United States:		
Total deaths.....	9, 117	8, 993
Median for 3 prior years.....	8, 922	-----
Total deaths, first 23 weeks of year.....	221, 635	219, 235
Deaths under 1 year of age.....	652	590
Median for 3 prior years.....	610	-----
Deaths under 1 year of age, first 23 weeks of year.....	14, 254	14, 884
Data from industrial insurance companies:		
Policies in force.....	69, 689, 748	70, 406, 105
Number of death claims.....	12, 805	12, 470
Death claims per 1,000 policies in force, annual rate.....	9. 6	9. 2
Death claims per 1,000 policies, first 23 weeks of year, annual rate.....	9. 9	9. 6

**Reported Cases of Selected Communicable Diseases: United States, Week Ended
June 10, 1950**

[Numbers under diseases are International List Numbers, 1948 revision]

Area	Diph- theria (055)	Encepha- litis, in- fectious (082)	Influ- enza (480-483)	Measles (085)	Menin- gitis, menin- gococcal (057.0)	Pneu- monia (490-493)	Polio- myelitis (080)
United States	69	12	1, 015	14, 273	75	1, 513	206
New England	3		6	1, 816	1	75	1
Maine.....			6	16		34	
New Hampshire.....				24		1	
Vermont.....				7			
Massachusetts.....	3			1, 179			
Rhode Island.....				12	1	1	
Connecticut.....				578		39	1
Middle Atlantic	7	4	2	4, 749	16	332	10
New York.....	4	3	1 ¹	1, 622	8	188	6
New Jersey.....	3	1		1, 987	4	52	2
Pennsylvania.....				1, 140	4	92	2
East North Central	5	3	20	4, 341	15	163	24
Ohio.....	2		4	762	6	41	4
Indiana.....	1	1		358	1	8	
Illinois.....	1		3	1, 155	3	68	6
Michigan.....		2		1, 037	2	37	6
Wisconsin.....	1		13	1, 029	3	8	8
West North Central	4	2	17	670	4	149	34
Minnesota.....	1	1	2	271	1	13	5
Iowa.....				126	2		7
Missouri.....	1		1	36		13	12
North Dakota.....	1	1		9		107	
South Dakota.....				31		1	
Nebraska.....			4	127			7
Kansas.....	1		1	76	1	15	3
South Atlantic	15	1	320	607	16	397	16
Delaware.....				11			
Maryland.....	1		27	60	2	53	1
District of Columbia.....				50	1	26	
Virginia.....	4		199	110	5	30	
West Virginia.....	1		7	151		6	1
North Carolina.....	6			82			3
South Carolina.....	1		5	39	1		7
Georgia.....	2	1	82	17	4	266	6
Florida.....				87	3	9	5
East South Central	11	1	19	226	8	67	13
Kentucky.....	2			109	5	21	1
Tennessee.....	6	1	9	56	1		2
Alabama.....	2		2	30	1	26	3
Mississippi.....	1		8	31	1	20	7
West South Central	18	1	472	538	10	244	80
Arkansas.....	2		8	89		15	6
Louisiana.....	2		3	14	4	19	9
Oklahoma.....			24	12	2	19	4
Texas.....	14	1	437	423	4	191	61
Mountain			146	479	1	35	5
Montana.....			13	28			
Idaho.....			28	113			2
Wyoming.....				15		1	
Colorado.....			9	83		11	1
New Mexico.....				42		6	1
Arizona.....			96	58		15	
Utah.....				140	1		
Nevada.....						2	
Pacific	6		13	847	4	52	23
Washington.....			1	105			1
Oregon.....			9	16		19	4
California.....	6		3	726	4	33	18
Alaska.....							
Hawaii.....			1	4			

¹ New York City only.
Anthrax: New Jersey, 1 case.

**Reported Cases of Selected Communicable Diseases: United States, Week Ended
June 10, 1950—Continued**

[Numbers under diseases are International List Numbers, 1948 revision]

Area	Rocky Mountain spotted fever (104)	Scarlet fever (050)	Small-pox (084)	Tularemia (059)	Typhoid and paratyphoid fever ¹ (040, 041)	Whooping cough (056)	Rabies in animals
United States.....	23	946	1	12	65	3, 150	157
New England.....		184			2	406	
Maine.....		7				31	
New Hampshire.....		5				10	
Vermont.....		2				21	
Massachusetts.....		139			1	167	
Rhode Island.....		6				67	
Connecticut.....		25			1	110	
Middle Atlantic.....	1	243			7	384	17
New York.....		² 134			5	112	13
New Jersey.....	1	32			2	151	
Pennsylvania.....		77				121	4
East North Central.....		243		1	8	502	47
Ohio.....		89			2	151	4
Indiana.....		8			3	36	³ 34
Illinois.....		24			3	61	5
Michigan.....		92		1		159	4
Wisconsin.....		35				95	
West North Central.....		43	1		1	155	14
Minnesota.....		6				26	
Iowa.....		6			1	16	8
Missouri.....		9				55	
North Dakota.....		2				7	
South Dakota.....						12	
Nebraska.....		15				3	
Kansas.....		10	1			36	6
South Atlantic.....	16	39			5	323	24
Delaware.....						7	
Maryland.....	5	13			1	42	
District of Columbia.....						2	
Virginia.....	5	9				84	4
West Virginia.....	2	2			2	46	6
North Carolina.....	3	9			1	86	
South Carolina.....						26	4
Georgia.....	1	5			1	23	10
Florida.....		1				7	
East South Central.....	4	24		2	5	623	28
Kentucky.....		11				509	12
Tennessee.....	4	8				57	7
Alabama.....		5			2	53	7
Mississippi.....				2	3	4	2
West South Central.....		21		6	16	393	17
Arkansas.....		2		5	1	93	1
Louisiana.....		3			5	4	1
Oklahoma.....		5		1	1	21	2
Texas.....		11		1	9	275	13
Mountain.....	2	23		3	3	120	
Montana.....		5		1		10	
Idaho.....		2				12	
Wyoming.....	1					4	
Colorado.....	1	4				32	
New Mexico.....		1				11	
Arizona.....		8			3	38	
Utah.....		3		2		13	
Nevada.....							
Pacific.....		116			18	244	10
Washington.....		16				41	
Oregon.....		4				49	
California.....		96			18	154	10
Alaska.....						2	
Hawaii.....		1					

¹ Including cases reported as salmonellosis.

² Including cases reported as streptococcal sore throat.

³ Report for 3 weeks.

FOREIGN REPORTS

CANADA

Provinces—Notifiable diseases—Week ended May 27, 1950.—Cases of certain notifiable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	New-found-land	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Sas-katchewan	Al-berta	Brit-ish Columbia	Total
Brucellosis.....						1	1		2		4
Chickenpox.....	1		18	1	165	249	31	10	66	111	652
Diphtheria.....					3						3
Dysentery, bacillary.....					7		1		1	1	10
German measles.....			38		18	1,304	2	122	66	388	1,938
Influenza.....			19		5		1				25
Measles.....			11	51	561	527	11	16	20	230	1,427
Meningitis, meningo-coccal.....					1	2					4
Mumps.....			35	4	233	380	8	64	118	164	1,006
Poliomyelitis.....										1	1
Scarlet fever.....	5		3		55	35	2	4	31	11	146
Tuberculosis (all forms).....	9		4	6	103	16	3	15	68	27	251
Typhoid and paratyphoid fever.....				1	7	1	1			4	14
Veneral diseases:											
Gonorrhoea.....	10		18	4	62	41	(?)	12	29	36	212
Syphilis.....	8		10	7	58	19	(?)	3	1	10	116
Whooping cough.....			2		94	62		1	4	75	238

¹ Type not segregated.
² Report not received.

CUBA

Habana—Notifiable diseases—5 weeks ended April 29, 1950.—Cases and deaths of certain notifiable diseases were reported in Habana, Cuba, as follows:

Disease	Cases	Deaths	Disease	Cases	Deaths
Chickenpox.....	29		Poliomyelitis.....	1	
Diphtheria.....	15	1	Tuberculosis.....	3	1
Measles.....	2		Typhoid fever.....	4	

Provinces—Notifiable diseases—5 weeks ended April 29, 1950.—Cases of certain notifiable diseases were reported in the Provinces of Cuba as follows:

Disease	Pinar del Rio	Habana ¹	Matanzas	Santa Clara	Cama-guey	Oriente	Total
Cancer.....	6	18	13	28	2	25	92
Chickenpox.....	1	36	13	131	22	13	216
Diphtheria.....	1	17		2	2	1	23
Leprosy.....		8		1	1	2	12
Malaria.....						22	22
Measles.....		6			2	14	22
Poliomyelitis.....	2	1	1	1	1		6
Tuberculosis.....	3	24	18	9	14	21	89
Typhoid fever.....	2	11	4	6	7	17	47
Whooping cough.....		10		23	1		34

¹ Includes the city of Habana.

JAMAICA

Notifiable diseases—4 weeks ended May 27, 1950.—Cases of certain notifiable diseases were reported in Kingston, Jamaica, and in the island outside of Kingston, as follows:

Disease	Kingston	Other localities	Disease	Kingston	Other localities
Chickenpox.....	29	44	Scarlet fever.....	1	1
Diphtheria.....	1	1	Tuberculosis (pulmonary).....	45	50
Dysentery, unspecified.....	1	1	Typhoid fever.....	7	33
Erysipelas.....	1	1	Typhus fever (murine).....	4	1
Leprosy.....	1	1			

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From consular reports, international health organizations, medical officers of the Public Health Service, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

CHOLERA

(Cases)

Place	January-March 1950	April 1950	May 1950—week ended—			
			6	13	20	27
ASIA						
Burma.....	6	2	1			1
Akyah.....						1
Bassein.....		1				
Maubin.....	2					
Rangoon.....	1					
India.....	28, 216	16, 541	2, 658	491	431	308
Ahmedabad.....					3	
Allahabad.....					3	
Bombay.....			1 1			
Calcutta.....	* 1, 855	2, 942	492	490	422	308
Cawnpore.....				1		
Cocanada.....	2					
Cuddalore.....	26	5				
Lucknow.....					3	
Madras.....	11					
Masulipatam.....	46					
Negapatam.....	67					
Port Blair (Andaman Island).....		1 2				
Tellicherry.....	27					
Tuticorin.....	25					
Indochina.....	6			1		
Cambodia.....	5					
Cochinchina.....	1			1		
Giadinh.....				1		
Rachgia.....	1					
Pakistan.....	6, 636	8, 540	* 1, 414	* 246	* 98	
Chittagong.....	25	28	5	9	29	29
Dacca.....	19	134	4	7		

* Imported.

* Includes imported cases.

* Preliminary figures.

PLAGUE

(Cases; P = present)

Place	January-March 1950	April 1950	May 1950—week ended—			
			6	13	20	27
AFRICA						
Belgian Congo.....	3	1	1			2
Costermansville Province.....	2		1			1
Stanleyville Province.....	1	1				1
Madagascar.....	34	7		1		
Rhodesia, Northern.....	2					
Union of South Africa.....	4	4		1		
Orange Free State.....	2	4		1		
ASIA						
Burma.....	177	27	1	2	1	
Bassein.....		1				
Bhamo.....	2					
Henzada.....	11	1				
Kyaiklat.....	32	2				
Moulmein.....				1		
Myaungmya.....	2	3				
Myingyan.....	2					
Pegu.....		1				
Rangoon.....		2	1	1	1	
Yenangyaung.....	58					
China:						
Chekiang Province.....	10					
Wenchow.....	4					
Fukien Province.....	126					
Kwangsi Province.....	63					
Kwangtung Province.....	15					
India.....	29,082	6,506	192	2	2	1
Allahabad.....	1	13	3	1		
Bombay.....		2	1	1	1	
Calcutta.....	1				1	1
Cawnpore.....	9	9				
Lucknow.....	5	3	1			
Indochina (French):						
Annam.....	30	12	5	6	5	
Cambodia.....	9				34	2
Cochinchina.....		2	5			
Laos.....	2					
Indonesia:						
Java.....	258	35	11	7	2	
Bandoeng.....	2					
Jogjakarta.....	256	35	11	7	2	
Pakistan.....	1					
Karachi.....	1					
Thailand (Siam).....	51	1				
SOUTH AMERICA						
Ecuador.....	10					
El Oro Province.....	4					
Loja Province.....	6					
Peru.....	5					
Piura Department.....	5					
Venezuela.....		5				
Miranda State.....		5				

¹ May, 10, 1950. ² Includes imported cases. ³ Imported. ⁴ Deaths. ⁵ Preliminary figures. ⁶ Includes suspected cases.

SMALLPOX
(Cases; P = present)

AFRICA						
Algeria.....	30	13				
Angola.....	80					
Bechuanaland.....	5					
Belgian Congo.....	628	339	110	115		
British East Africa:						
Kenya.....	5	1				
Nyasaland.....	203	23				
Tanganyika.....	197	45	1	2		
Uganda.....	1					
Cameroon (British).....	232					
Cameroon (French).....	19	15				
Dahomey.....	172	10		7	8	

See footnotes at end of table.

SMALLPOX—Continued

Place	January- March 1950	April 1950	May 1950—week ended—			
			6	13	20	27
AFRICA—continued						
Egypt.....	4 3	1				
Eritrea.....	1					
Ethiopia.....	7					
French Equatorial Africa.....	362	41		8		
French Guinea.....	2	2		6		
French West Africa: Haute Volta.....	119	8		14		
Gambia.....	4					
Gold Coast.....	6	56			18	14
Ivory Coast.....	365	79	45			
Libya.....	2					
Mauritania.....	1					
Morocco (French).....	5					
Mozambique.....	63	26				
Nigeria.....	6,677	1,756	36			
Niger Territory.....	504	131		105		
Rhodesia:						
Northern.....	3	1				
Southern.....	246					
Senegal.....	2					
Sierra Leone.....	16					
Sudan (Anglo-Egyptian).....	27	21	1	2	1	
Sudan (French).....	62	31				
Togo (French).....	38	4				
Tunisia.....	1					
Union of South Africa.....	272	P				
ASIA						
Afghanistan.....	151					
Arabia.....	279	41				
Bahrein Islands: Bahrein.....	11	23				
Burma.....	4 4, 296	502	39	23	17	7
China.....	457	130				
India.....	45, 535	23, 150	2, 722	390	319	238
India (Portuguese).....	1					
Indochina (French).....	242	20		3	2	
Indonesia:						
Borneo.....		101				
Java.....	440	508	30	20	27	4
Sumatra.....	124	54	12	8	8	
Iran.....	124	21				
Iraq.....	72	28	8	2	4	
Israel.....	15					
Japan.....	3	1				
Korea (Southern).....	1, 229	10 7				
Lebanon.....	11 1					
Pakistan.....	4, 852	3, 482	66	42	27	14
Palestine.....	79	8				
Syria.....	15					
Thailand (Siam).....	444	13				
Transjordan.....	19		2			
Turkey (See Turkey in Europe).						
EUROPE						
Great Britain:						
England: Liverpool.....		11 1				
Scotland: Glasgow.....		12 21				
Turkey.....	11	6				
NORTH AMERICA						
Guatemala.....	1					
Mexico.....	73	37	1	17		
SOUTH AMERICA						
Argentina.....	195	104	45			
Brazil.....	18	5				
Chile.....	13 133	14 2, 847			15 180	16 72
Colombia.....	17 41	17 16				
Ecuador.....	70	5				
Peru.....	18 303					
Venezuela.....	29	13				
OCEANIA						
Australia: Fremantle.....		11 1				

¹ In Lindi. ² May 1-10, 1950. ³ May 11-20, 1950. ⁴ Includes imported cases. ⁵ Apr. 1-May 5, 1950. ⁶ May 6-15, 1950. ⁷ May 15-25, 1950. ⁸ In Lagos only. ⁹ In ports only. ¹⁰ In Seoul only. ¹¹ Imported. ¹² Reported Mar. 26-Apr. 11, 1950. ¹³ To Apr. 2, 1960. ¹⁴ Apr. 3-May 3, 1950. ¹⁵ May 10-15, 1950. ¹⁶ May 16-22, 1950. ¹⁷ In Medellin. ¹⁸ Jan. 1-31, 1950.

TYPHUS FEVER*

(Cases; P = present)

Place	January-March 1950	April 1950	May 1950—week ended—			
			6	13	20	27
AFRICA						
Algeria	47	16				
Basutoland	20					
Belgian Congo	1 17	22	4			
British East Africa: Kenya	4	2 3				
Egypt	27	13	3	1	12	
Eritrea	8				2	
Ethiopia	184					
French Equatorial Africa	4					
Gold Coast	5					
Libya	50	17	4	2	4	5
Madagascar	2 1					
Morocco (French)	3					
Morocco (International Zone)	1					
Morocco (Spanish Zone)	3					
Nigeria	1					
Sierra Leone	1					
Sudan (Anglo-Egyptian)	4					
Tunisia	34	1				
Union of South Africa	29	P		1		
ASIA						
Afghanistan	524					
Burma	2 8					
China	18					
India	105	36	7	1		1
India (Portuguese)	1					
Indochina (French)	5	5	10	3	5	
Indonesia:						
Java	6					
Sumatra	1					
Iran	73	32	5			
Iraq	44	35	2	6	2	1
Japan	671	97				
Korea (Southern)	2 1,042	4 61				
Lebanon	1					
Pakistan	32	21	7	2	1	
Palestine: Jerusalem						1
Straits Settlements: Singapore	13					
Syria	1 4	1 27	2 1	1	1	
Transjordan	12				1	
Turkey (see Turkey in Europe)						
EUROPE						
France	1					
Germany (British Zone)	1 2					
Germany (French Zone)	2					
Germany (United States Zone)	1					
Great Britain: Island of Malta	2 2		2 1			
Greece	2 19					
Hungary	2	1				
Italy	23					
Sicily	15					
Poland	37					
Spain	7	6				
Turkey	91	20	3	2	1	5
Yugoslavia	76	62	21			
NORTH AMERICA						
Costa Rica 2	3					
Guatemala	8					
Jamaica 2	3	4	2	2		
Mexico 1	31	7	1	1	2	1
Puerto Rico 2	4					
SOUTH AMERICA						
Argentina	2 1					
Chile	45	7	2	1	1	1
Colombia	80	21				
Curaçao	1					
Ecuador	61	5				
Peru	3 105					
Venezuela	2 3	2	2 1		2 1	
OCEANIA						
Australia 2	34	23	2	1		
Hawaii Territory 2	1		1			

*Reports from some areas are probably murine type, while others include both murine and louse-borne types.

1 Includes murine type. 2 Murine type. 3 Jan. 1-31, 1950. 4 In Inchon and Seoul only. 5 Off-shipping.

YELLOW FEVER

(C=cases; D=deaths)

Place	January- March 1950	April 1950	May 1950—week ended—			
			6	13	20	27
AFRICA						
French Equatorial Africa.....	C	1				
Port Gentil.....	C	11				
Gold Coast.....	C	9	1			
Ankobra Ferry.....	D	1				
Bisiasi.....	D	(²)				
Kade.....	C	1				
Oda Area:						
Akwatia.....	C	126	11			
Atiankama.....	C	1				
Sierra Leone.....	C	1				
Koinadugu District.....	C	1				
NORTH AMERICA						
Panama:						
Colon.....	D	1				
SOUTH AMERICA						
Bolivia:						
Chuquisaca Department.....	C	4850				
La Paz Department.....	C			17		
Colombia:						
Mocoa Locality.....	D		2			
Peru:						
San Martin Department.....	D	1		1		

¹ Suspected. ² The fatal suspected case reported in Bisiasi Mar. 23, 1950, was not confirmed. ³ Includes 3 suspected cases reported week ended Mar. 25, 1950—not previously reported. ⁴ Reported in Azero Province during the period Jan. 1-Mar. 14, 1950, with 230 deaths. ⁵ Telegram dated May 6, 1950, 8 deaths

Regular Corps Examinations for Veterinarians

Examinations for veterinarians in the Regular Commissioned Corps of the U. S. Public Health Service will be held October 9, 10, and 11, 1950, in various cities throughout the country. Completed applications must be in the Washington Office by September 11, 1950.

Appointments are permanent and provide opportunities for career service in research in animal physiology, pathology, infectious and tropical diseases; in the veterinary aspects of public health, field investigation; and in food sanitation.

Appointments will be made in the grades of Assistant and Senior Assistant (equivalent to Army ranks of 1st Lieutenant and Captain, respectively). Entrance pay is \$4,486 for Assistant (with dependents) and \$5,346 for Senior Assistant (with dependents), including rental and subsistence allowance.

Applicants must have at least 7 years training and experience after high school, including graduation from an accredited school of veterinary medicine.

For application forms and additional information write to: Surgeon General, U. S. Public Health Service, Federal Security Agency, Washington 25, D. C., Attention: Division of Commissioned Officers.
